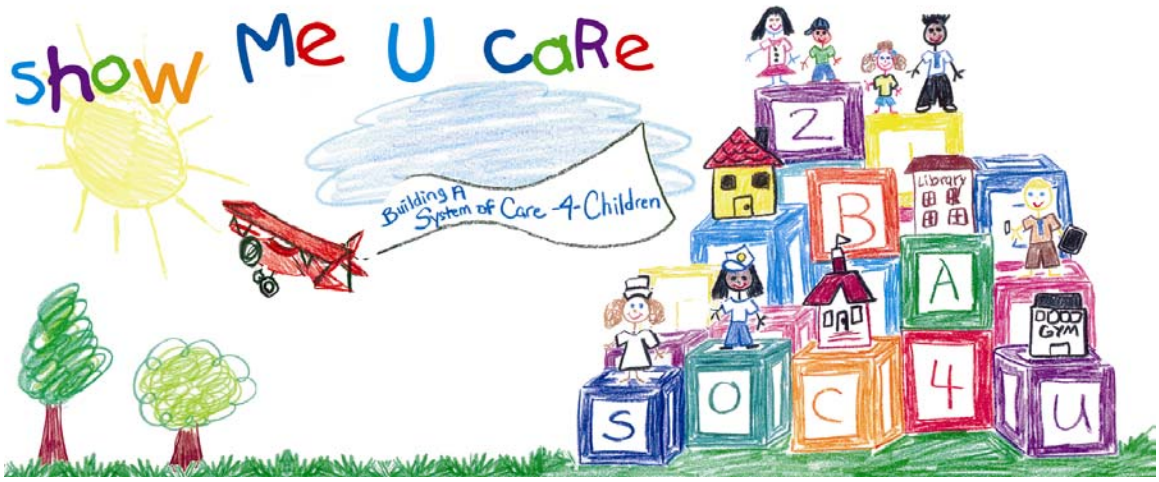
Nashville Connection: Local Data Profile



July 2003

The Nashville Connection
Funded through the Tennessee Department of Mental Health and Developmental Disabilities
by
Center for Mental Health Services (CMHS)
Substance Abuse and Mental Health Services Administration (SAMHSA)

Caring for Every Child's Mental Health
Systems of Care

CMHS

SAMHSA
Substance Abuse and Mental Health Services Administration

Nashville Connection: Data Highlights
July 2003

Child Characteristics (85 children enrolled in evaluation study)

Gender: 33% girls, 67% boys

Average Age: 10.8 years at enrollment into the *Nashville Connection*. Currently (July 2003) the children enrolled in the *Nashville Connection* range from 8 to 16 years of age. 11% are 10 years of age and younger; 51% are between the ages of 11 and 13 years of age; and, 38% are 14 and older.

Race/Ethnicity: 61% of the children are African American; 22% are Caucasian; 8% are bi-racial and, 10% are described as "other" (Native American, Asian, Arab). 3.4% report being of Hispanic origin.

Family Characteristics

Family Composition: 62% of children live in single-parent homes, 6% live in two-parent homes, 20% live with another relatives, 3% live with adoptive parents, 4% are in specialized foster care, and 6% are in residential treatment centers (2.8% of whom are in the custody of the state).

Living Arrangements: 89% of the children are in a single living arrangement during the 6 months prior to enrollment in the *Nashville Connection*. 67% of those children continue in that same living arrangement 6 months after enrollment.

Income: Caregivers report that 83% are eligible for Medicaid coverage, 26% of the children receive Social Security benefits (SSI), 26% of the families participate in TANF, and 12% participate in CHIP.

Family Risk Factors: 79% identify at least one family risk factor, and 53% identify three or more risk factors. The highest report family risk factors are history of mental illness (63%), history of violence (58%), history of substance abuse problems (60%), and history of felony conviction (51%).

Child Risk Factors: 55% report that their child has at least one risk factor for serious emotional disturbance. The most frequently reported child risk factors are previous psychiatric hospitalization (35%), history of physical abuse (21%), history of sexual abuse (20%) and attempted suicide (13%).

Referral Source and Diagnosis

Referral: 36% are referred by a mental health agency, 17% by schools, 19% by a caregiver, 2% through courts and correctional institutions, and 8% by child welfare.

Primary Diagnosis: 50% ADHD, 23% bipolar, 8.5% depression, 8.5% oppositional defiant, and 7% PTSD

Multiple Diagnoses – Co-occurring Diagnoses: 96% have a secondary diagnosis, 52% have three or more diagnoses. 2% of the families report that their children have co-occurring substance use problems.

Educational Status

Individualized Education Plan (IEP): 64% of the *Nashville Connection* children have an IEP; most of these children (96%) have IEPs related to the emotional disturbance designation, and 57% are identified as also having learning disabilities.

Classroom Placement: 100% of children are in a school setting, 3% receive education in an alternative school setting (not including magnet, Metro alternative school placement). 39% receive remedial educational supports. 49% spend between 75% and 100% of the school day in special education classrooms.

School Discipline: At enrollment, 83% of the children had experienced school suspensions, and 6% expulsion. At 6 months, 56% had experienced suspension, a 33% decrease; and at 12 months, 61% had experienced suspension, an overall 27% decrease from the baseline parent reports. No expulsions occurred at the 12-month follow-up. In-school detention increased by 7% at 6 months and then declined to 13% at 12 months. It is difficult to know why detention increased. Changes in schools, classroom, and teachers likely affect a child's behavior, not to mention differences in expectations for a child. It is important to note that detention is a less serious disciplinary action.

Attendance: Improved attendance is noted across time for children. At baseline, 38% of the caregivers reported that their children missed one day or less per month. At the 6-month follow-up, 58% of the caregivers reported that their children missed a day or less of school each month. This increased to 68% at the 12-month follow-up – an overall increase of 62%.

Grades: 8% of the children had *significant* improvement in their average grades, 70% had stable grades, and 22% experienced a decline in grades between enrollment and the 6-month follow-up. Most of the change in terms of declining grades was from an A to a B. At enrollment 12% of the children were failing more than half their classes; at the 6-month follow-up 7% reported failing more than half their classes. At baseline, 37% of the parents reported that their child received mostly A and B averages; at 6-month follow-up, 65% reported these grades for their children. For those children completing the 12-month follow-up, grades remained fairly stable: 9% reporting an A average, 56% reporting a B average, and 25% reporting a C average.

Clinical Outcomes

Behavioral Problems (Child Behavior Checklist – CBCL): 42% of the children showed a significant reduction in internalizing behaviors (depression, anxiety, etc.), 46% remained stable, and 11% showed some worsening of symptoms between baseline and the 6-month follow-up. 44% of the children showed significant improvement in externalizing, acting-out behaviors, 43% remained stable, and 13% showed worsening of acting-out behaviors during the same time period.

GAF Scores ranged from 20 to 57 with a mean score of 42.2 for the *Nashville Connection* baseline evaluation sample.

Functional Outcomes (Home, School, Community): There was fluctuation in terms of improvement of home and school social function as measured on the CAFAS. Some significant change was noted for home (relationships with parents, siblings, etc.), school, and for social function in the community (e.g., delinquent behavior). However, parents reported an overall decline in CAFAS scores between the 6-month and 12-month follow-ups for school and community functioning.

- 83% of the children were assessed in the severe range for home functioning at baseline, 70% at 6-months. Of those children eligible for the 12-month follow-up, 67% were in the severe range at the time of assessment.
- 86% of the children were assessed in the severe range for school functioning at baseline, 74% at 6-months. Of those children eligible for the 12-month follow-up, 79% were in the severe range at the time of assessment.
- 33% of the children were assessed in the severe range for community functioning at baseline, 13% at 6-months. Of those children eligible for the 12-month follow-up, 23% were in the severe range at the time of assessment.

Nashville Connection: Local Data Profile

When families are enrolled into the *Nashville Connection*, they are asked to participate in the local evaluation. To be included in the evaluation, caregivers and youth (11 years of age and older) must volunteer to participate. Only one child in each family is included in the evaluation so that the caregiver is not asked to complete multiple interviews. Currently there are 119 *Nashville Connection* families participating in the evaluation.

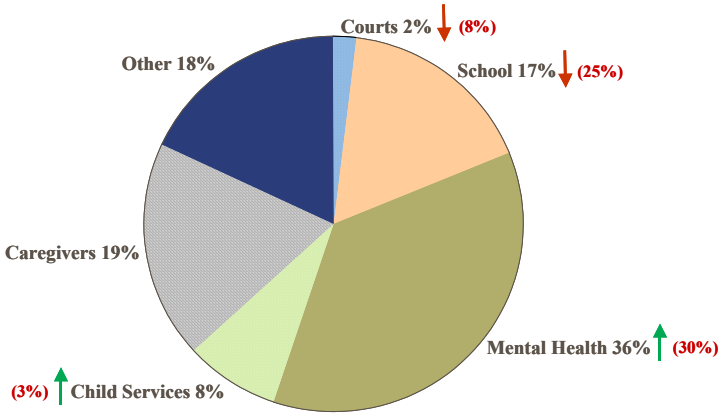
Sixty-seven percent of the youth in the *Nashville Connection* evaluation are male. Approximately 61 percent describe themselves as African American, 22 percent Caucasian, and 8% bi-racial (African American and another racial/ethnic identification). Three percent of the families report being of Hispanic origin. Table 1 provides the demographic breakdown for the evaluation sample. Davidson County percentages for race/ethnicity are also provided. Originally, the *Nashville Connection* was restricted to five zip codes comprising two adjoining neighborhoods, Bordeaux/North Nashville and East Nashville. Census data for these neighborhoods indicates that approximately 60 percent of the population is African American. In the spring of 2002, the *Nashville Connection* expanded across all of Davidson County. We continue to monitor the demographic makeup of the evaluation families as an indicator of the outreach efforts of the *Nashville Connection*. To date, our outreach efforts have enrolled children in 20 zip codes around the county.

Table 1

Age	10.8 years (average age of youth at enrollment)	
Gender		
Male	67%	
Female	33%	
Race/Ethnicity	***Nashville Connection***	***Davidson County***
African American	61%	26%
Caucasian	22%	67%
Bi-racial	8%	
Other	9%	
Hispanic Origin	3%	5%

Another indicator of outreach is the pattern of referrals to the *Nashville Connection*. The *system of care* service model is built on the integration and coordination of services across agencies that support children diagnosed with serious emotional disturbances. The pie chart illustrates the breakdown of how families are referred to the *Nashville Connection* for services. The arrows indicate changes in referrals between January and June of this year. Referrals to the *Nashville Connection* come largely from mental health agencies, caregivers, and schools. *Word-of-mouth* based on family experiences about the *Nashville Connection* has resulted in a substantial number of

Caregiver Reported Intake Referral Information

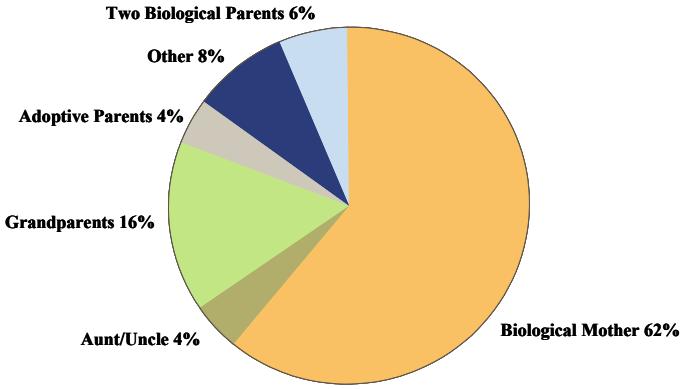


self-referrals. Parents note the fact that their children were approaching or had begun high school. Parents cited a need for increased services in the high schools in order to sustain the improvements their children had experienced through the Nashville Connection. Expansion into the high schools places demands on an already limited *mental health liaison* (MHL) program conducted by Centerstone.

Describing the *Nashville Connection* Children

At the time of intake into the *Nashville Connection* 88 percent of the children are living with a biological parent or relative (grandparent, aunt, uncle, etc.). Children are most likely to be living in a mother-headed household. The pie chart below provides a breakdown of the living arrangement of the children at the time of enrollment into the *Nashville Connection*. Mothers are most likely to have legal custody of the child (62%) even when the child is residing with a relative. Six percent of the children were in residential facilities, and approximately three percent (2.8%) of those children were in the custody of the state.

Custody of Child at Intake (N=115)



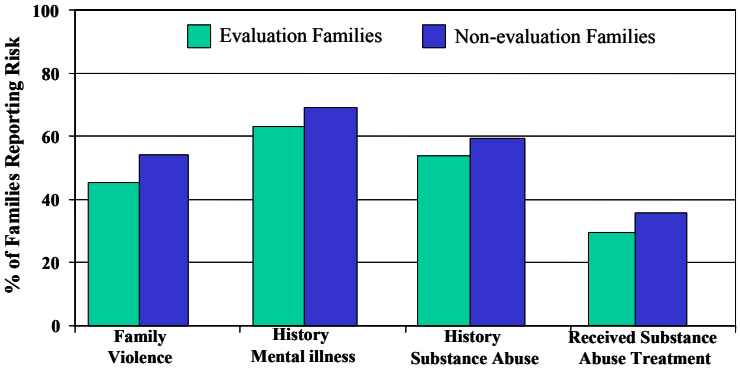
Stabilizing the family and the living arrangements is an important factor in promoting optimal outcomes for children. Setbacks are frequently attributed to a disruption in living arrangements. Approximately two-thirds of the children were living with the same caregiver in the same location six months after their initial intake into the *Nashville Connection*. Fifteen children (13%) experienced a formal change of custody between enrollment in the *Nashville Connection* and the 6-month follow-up.

Many of the caregivers of the *Nashville Connection* children report experiencing significant family challenges. Several of the caregivers report that the family has a history of mental illness (63%). Substance abuse and felony conviction are also identified as challenges these families face. More than two-thirds (67%) of the *Nashville Connection* children live in families with two or more of these risk factors. Fifty-three percent of the children live in families with three or more risk factors. The bar graph on the following page provides information on several family risk factors that make the challenge of supporting a child with serious emotional disturbances even more difficult. Information is presented on the families choosing to

Suicidal Behavior: *Caregivers report that 13% of the 119 children enrolled in the Nashville Connection evaluation have attempted suicide. It is important to note that the Nashville Connection serves children between the ages of 8 and 13.*

participate in the evaluation and those families deciding not to participate. Non-participating families report proportionately higher family risk. This may explain their decision not to take on the burden of involvement in the evaluation. It is interesting to note that nearly half of the families reporting a history of substance abuse reported that they did not receive treatment services for this disorder. This is an indication of the need for including treatment for family members in a system of care service system. Challenges experienced by caregivers influence their ability to participate in their child's service and treatment planning.

Family Report of Risk Factors



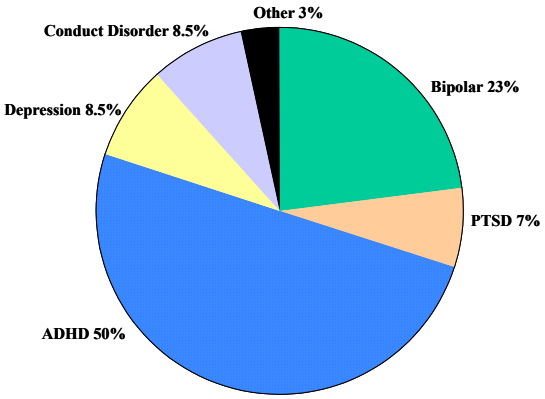
It is noteworthy that even with these risk factors and family challenges, 94 percent of the *Nashville Connection* children are living in family settings, and receiving services and treatment in the community. At the time of this report, only five children (6%) are being cared for in specialized foster care or residential settings.

Diagnosis: All children served by the *Nashville Connection* have a designation as having a serious emotional disturbance (SED). Ninety-six percent of the children have two separate diagnoses, 52 percent have three or more diagnoses. Sixty-eight percent of the families report that their children take medications for behavioral health disorders. Attention Deficit Disorder with Hyperactivity (ADHD) is the most commonly diagnosed disorder for the *Nashville Connection* children, followed by bipolar disorder (23%). Children diagnosed with ADHD are most likely to have a secondary diagnosis of depression or Oppositional Defiant Disorder. Children with a bipolar disorder having additional diagnoses are more often diagnosed with ADHD. The pie chart provides a breakdown of the most prevalent primary diagnoses for children.

Diagnosis: what caregivers have to say

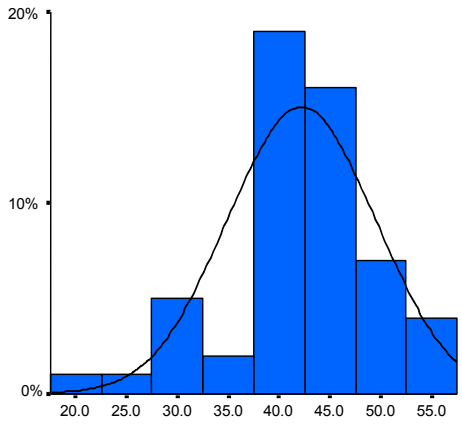
- *First diagnosis is not always right.*
- *Medical staffs sometimes get a diagnosis in their head and stick with it - not willing to change the diagnosis.*

Primary Diagnosis at Intake



The level of impairment for each child enrolled in the *Nashville Connection* is assessed using the *Global Assessment of Functioning* (GAF) Scale. The GAF assesses a continuum from serious impairment to superior functioning (no impairment) on a scale of 10 through 100 respectively (lower scores indicate greater impairment). The average GAF score for *Nashville Connection* children is 42.2, well below the indicator of serious impairment (a score of 50). GAF scores for the *Nashville Connection*

Global Assessment of Functioning Scores

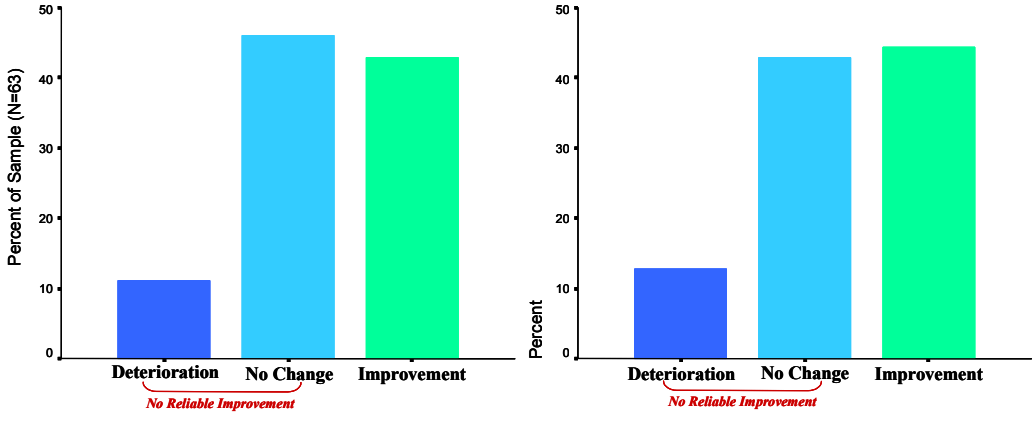


children range from 20 to 57. The bar chart to the left illustrates the distribution of GAF scores for the *Nashville Connection* children currently enrolled in the evaluation. The majority of the children are assessed with GAF scores between 40 and 50, indicating serious impairment in several areas (school, social relationships, judgment, moods, etc.)

The *Nashville Connection* serves children diagnosed with serious clinical disorders. Ninety-one percent of the children score above the clinical threshold on the Child Behavior Checklist – CBCL (a standardized assessment of symptomatology). Most of the children are reported to have profound levels of impairment affecting their home (87%) and school (86%) behaviors on the Child Adolescent Functional Assessment Scale (CAFAS), a standardized assessment of functional behavior.

Six months after enrollment into the *Nashville Connection* approximately 44 percent of the caregivers report improvement in internalizing (42%) and externalizing (45%) symptoms. About 44 percent report stabilized symptoms, about 13 percent report worsening of externalizing symptoms, and 11 percent report declines in internalizing symptoms.[1] The bar charts below illustrate the changes (improvement, stabilization, and deterioration) that took place on the CBCL score between enrolling in the *Nashville Connection* and after six months of services.

Internalizing – Externalizing Behavior Changes
Baseline and 6 Months



Stabilization (no change) must be carefully considered with the context of the child's experience. While stabilization is not necessarily adverse, we would not like to see stabilization at the highest levels of impairment as some children have experienced.

[1] Edwards Nunnally Confidence Interval

Likewise, deterioration should be interpreted within the context of the particular disorder and the child's circumstances. Not all children would be expected to progress in a similar manner. Children with multiple diagnoses and more complex family situations would be expected to have a different outcome trajectory than would children with a single, less serious diagnosis and a stable family situation. Table 2 illustrates that children living in families facing serious challenges such as family violence, history of mental illness, and substance abuse problems are not likely to experience improvement as a result of exposure to the *Nashville Connection* system of care. The difficulties families face may dilute the benefits of the services children receive.

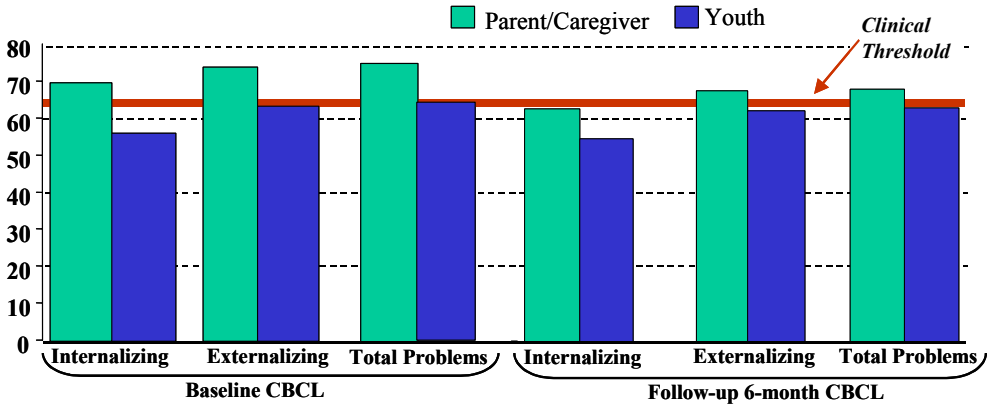
Table 2. Understanding The Lack Of Improvement

	Internalizing Behavior		Externalizing Behavior	
Risk Factor	**Improvement**	**No Improvement**	**Improvement**	**No Improvement**
Family history domestic violence	24%	**76%**	44%	**56%**
Family history mental illness	27%	**53%**	41%	**59%**
Parent psychiatric hospitalization	27%	**53%**	20%	**80%**
Parent conviction of felony	37%	**63%**	49%	51%
Family history of substance abuse	42%	**58%**	47%	53%
Child previous hospitalization	46%	54%	50%	50%

In addition, where the child is in the course of the disorder (onset as opposed to persistent symptoms), as well as changes in school and living situations have influence on outcomes over time. For example, changes in diagnosis or the identification of a co-occurring diagnosis may temporarily reflect an aggravated symptomatology, as would misdiagnosis and inappropriate medications. Evaluation follow-up assessments conducted at the beginning of a new school year or shortly after a move to a new neighborhood may also reflect a temporary setback in child outcomes.

Parent/Caregiver and youth have different opinions with regard to the degree of problem behavior. Youth tend to see their behavior as less troubling than do their parents and caregivers. The bar graph below depicts this difference of opinion. The differences between parent and youth perceptions are greater at baseline than they are at the 6-month follow up. In general, youth assess their behavior below clinical threshold levels that indicate serious emotional disturbances. The graph also shows that parent/caregiver reported 6-month CBCL scores are near or slightly above the clinical threshold indicating a decrease in problem behaviors.

Parent/Caregiver and Youth Perceptions of Problem Behavior

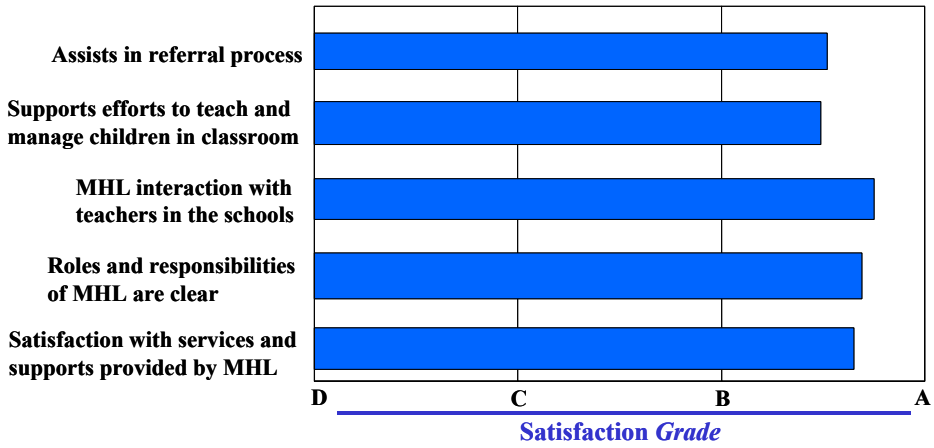


School: Attendance, Grades, and Conduct

One of the unique features of the *Nashville Connection* is the *Mental Health Liaison* (MHL) staff. The *Nashville Connection* grant supports four MHLs through Centerstone to provide training and support to the schools the *Nashville Connection* children attend. MHLs provide consultation and training to teachers to enhance their skills in supporting and working with children with serious emotional disturbances. This training and support extends to supporting teachers in addressing peer and behavioral issues that often arise in classrooms where troubled children are mainstreamed.

Twice a year, teachers, counselors and principals from schools receiving Centerstone mental health liaison (MHL) services are surveyed. The most recent results (presented in graph below) indicate that school personnel are very satisfied with the services, particularly their interaction with the MHLs and the support and assistance the MHLs provide to the teachers and students. The most common suggestion for improving the MHL services is to provide more – more MHLs, serving more schools and students, making more frequent visits, and spending more time in the classrooms. The teachers describe the MHLs as a link connecting youth, caregivers, and schools, as a resource in working with children designated with SED, as well as overall classroom behavior management. Satisfaction with the MHLs is high as the graph indicates. The survey will be conducted again in the late fall 2003.

School Satisfaction With The MHL Program



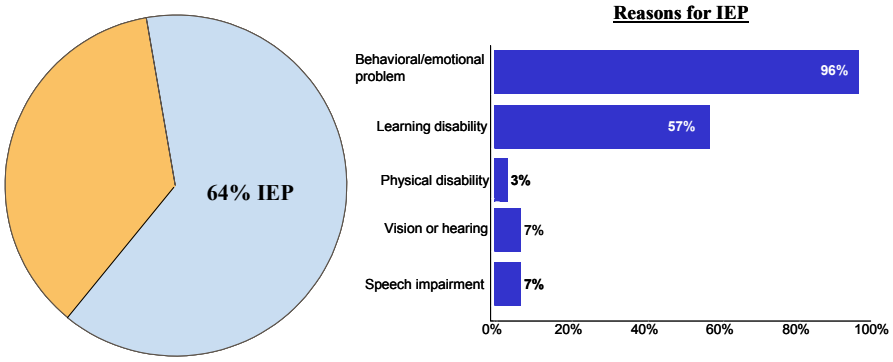
Parents/Caregivers talk about IEPs

- *Making sure parents, caregivers, teachers know about IEP plans*
- *Notifying parents/caregivers about changes*
- *Classrooms need to address each child's needs – resources for children so they are not pulled out of the class – too embarrassing to be singled out*

Sixty-four percent of the *Nashville Connection* children currently have an Individual Education Plan (IEP). Ninety-six percent of these children have an IEP as a result of behavioral and emotional problems. Fifty-seven percent of these children are also identified as having learning disabilities. The graphic provides information about IEP plans.

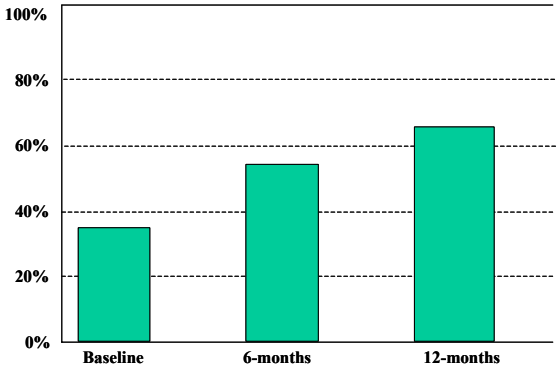
Forty-eight percent of the families report that their children are enrolled in special education classes. Only 10 percent of those are receiving special education services in mainstream classrooms. Nearly half (48.9%) of the children participate in special education classes for 75 to 100 percent of their school day.

Individual Education Plans (IEP)



Every missed day of school is a lost opportunity for learning. For children with SED, the consequences of missed school days are intensified by the emotional and behavioral challenges they face. On enrollment into the *Nashville Connection*, 43 percent of the caregivers report that their children missed at least one day out of every 10 days of school. Twenty-three percent report absences of at least one day each week. Interruptions in academic instruction often result in falling behind, and consequently lower grades. The bar graph to the right shows the increase in school attendance for *Nashville Connection* children over time.

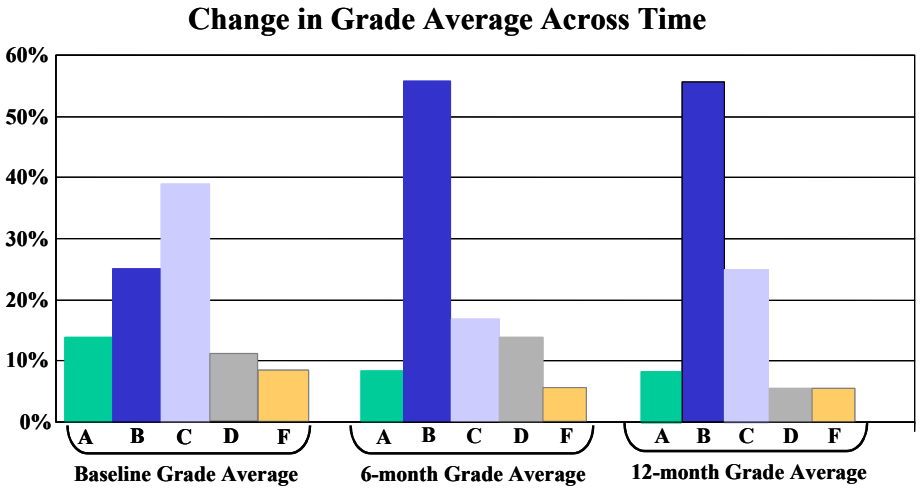
Percent Children With One Day Or Less Absence From School Per Month



Caregivers share that unexcused absences occur for a number of reasons. Discussions with a group of 11 caregiver members of the *Evaluation Advisory Team* revealed that being teased and bullied is the primary reason their children do not want to go to school. Not having friends is also a significant deterrent to school attendance. Safety issues also contributed to poor school attendance. Several caregivers said that their children do not feel safe at school bus stops; this is especially true in some of the public housing projects. Overall, caregivers report that unexcused absences are not due to disliking school, but are largely due to peer and safety issues.

The six-month follow-up interviews reveal that grades improved for 37 percent of the *Nashville Connection* children. Although 26 percent of the children experience a decrease in grade average, this decrease is primarily the result of going from an A to a B. Overall, six months into the *Nashville Connection* program, 64 percent of the

children are making A and B grade averages compared to 39 percent prior to enrollment. It is notable that less than six percent of the children receive failing grades. Most children (56%) receive grades of "B" or "C". The bar graph below illustrates the average grades for children enrolled in the Nashville Connection for 12 months.



Parents/Caregivers speak about grade improvements . . .

- *Children with behavior problems are intelligent*
- *Children feeling supported – MHLs, FSCs*
- *Behavior modification in IEP*
- *Classroom modification – if child is having bad day he/she can request to step out*

The *zero-tolerance* policy adopted by Metro schools has significant implications for children challenged with impulsive behavior problems. Caregivers report that their children do not always realize the implications of what they say or how their behavior will be perceived. The resources, training and supports provided by the MHLs can assist teachers in differentiating between violations of *zero-tolerance* and the emotional and behavioral manifestations of mental health disorders. In addition, these resources and supports may help teachers recognize what stimulates emotional and behavioral outbursts so that such behaviors can be avoided or reduced in terms of frequency. Table 3 indicates that overall school disciplinary actions decreased for children enrolled in the *Nashville Connection* for 12 months, especially more severe disciplinary actions such as suspensions and expulsions. Between baseline and the 12-month follow-up, suspensions were reduced by 27 percent, and no school expulsions were reported between 6 and 12-month follow-up for these children.

Table 3: School Discipline

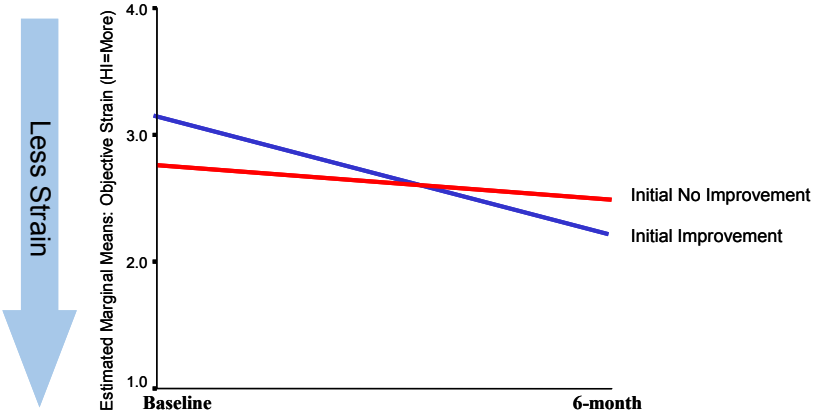
	Intake % Children	6 Months % Children	12 Months % Children
Detention	**15%**	**22%**	**13%**
Suspension	**83%**	**56%**	**61%**
Expulsion	**6%**	**6%**	**0%**

Family Perspectives: Stress and Satisfaction

The family challenges in responding to the emotional and behavioral problems of children are well known. Caregivers have concerns about the well being of their children, apprehension about their safety, worries about their success and eventual self-sufficiency, and uneasiness that they are doing all that is needed to optimize the outcomes for their children. The Family Service Coordinators (FSCs) and the Mental Health Liaisons (MHLs) provide a support system for caregivers; and the *Nashville Connection* offers a menu of both traditional (clinical services, case management, etc) and wraparound services (respite care, mentoring and tutorial supports, and recreational activities, and so forth) to meet the needs of families with children designated as having SED.

When families complete the six-month follow-up interview, they report less overall stress, as well as reduced worries and feelings of guilt. The graph below illustrates change in the overall stress level for families with children making initial improvement between baseline and 6-months and those families with children making no initial improvement. As the graph indicates, reduction in stress is experienced to a greater degree for families of children with improved outcomes (decreased problem behaviors). We are not able to discern whether the lack of stress reduction is due to the lack of improvement in child outcomes, or whether the lack of improvement in child outcomes is due to the stress level of the parent/caregivers.

Caregiver Strain: Initial Trends Baseline – 6 Months



Within Subjects: F = 9.138, *df* = 1, *p* = .004

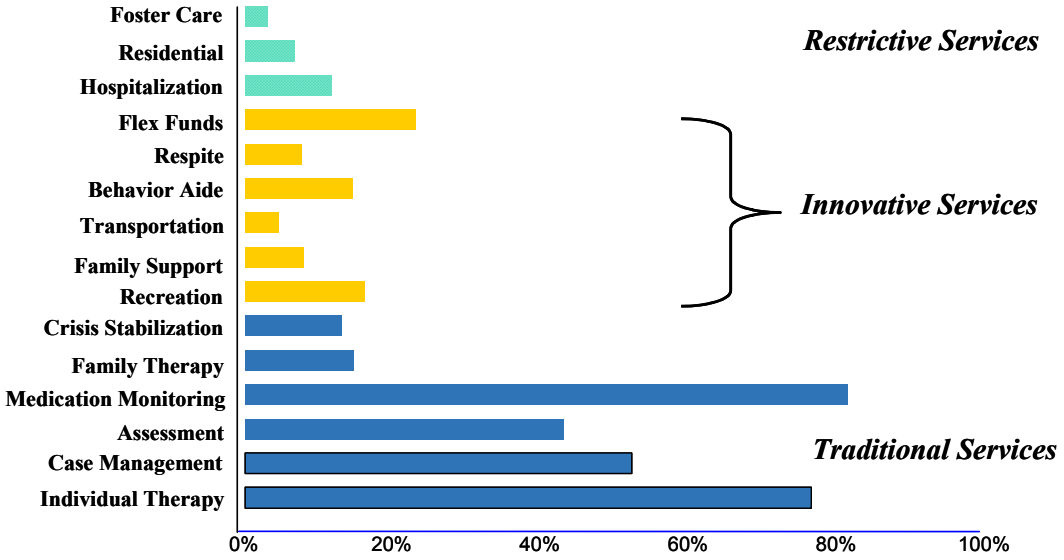
Discussions with the families participating on the *Evaluation Advisory Team* reveal that FSCs and MHLs appreciably lessened the day-to-day stress they encounter in negotiating the service systems that provide services and supports their children require. Caregivers report that the resources provided through the *Nashville Connection* made it possible to restore connections with churches and neighbors and, in some cases, make it possible to return to work. The FSCs and MHLs link caregivers to understandable information about their child's disorder(s), as well as to services and strategies caregivers can use to manage their child's troubling behaviors.

Families speak out about stress . . .

- *Everyone finds fault in the caregiver – afraid that people will find fault so they do not voice their stress and concerns*
- *Let individual caregivers know what is out there to help them -- support groups, FSCs*

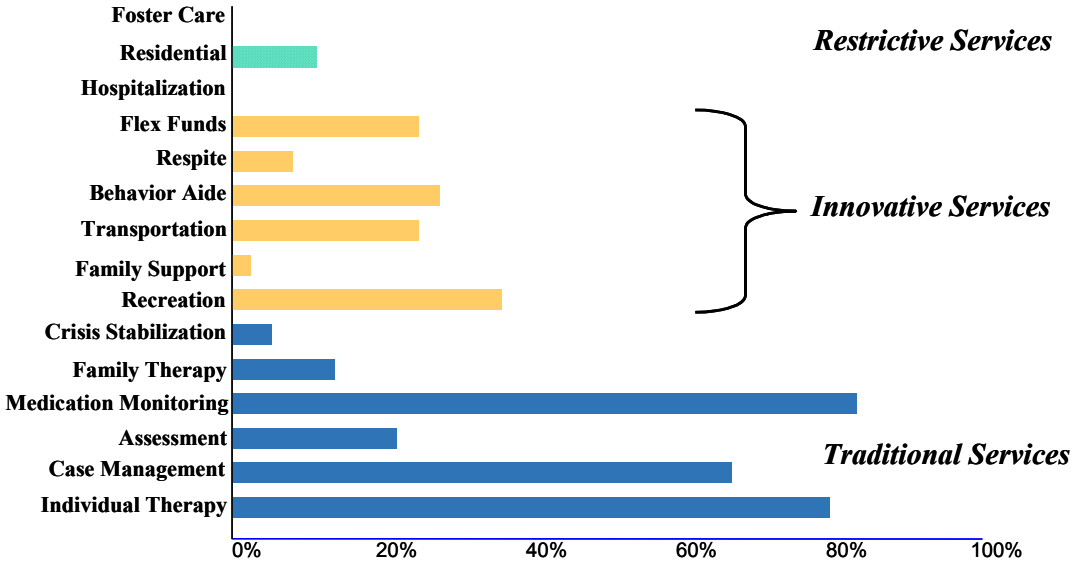
As noted earlier, *Nashville Connection* families receive multiple services. The bar graphs below provide a breakdown for the proportion of children receiving traditional clinic-based services. Most children receive medication-monitoring services (82%) and individual therapy (approximately 78%). This is not unexpected as ADHD and bipolar disorders account for 71 percent of the children in terms of primary diagnosis. Both disorders are frequently treated with psychosocial intervention and medication.

Services Received: Baseline - 6 Months



Average number of services children received between baseline and 6 months: 3 services **(N= 79)**

Services Received: 6 Months - 12 Months



Average number of services children received between 6 months and 12 months: 3 services **(N= 50)**

While the traditional services families report receiving do not change between 6-month and the 12-month follow-up, the amount of innovative services does change considerably. Families reporte receiving more behavioral aide, transportation, recreation and flex fund services between 6 and 12-months of enrollment in the *Nashville Connection*. It may well be that it takes several months to comprehensively identify the service array each family needs to optimize the outcomes for their child.

As the evaluation continues, we will be examining the relationship of all types of services to child and family outcomes over time. Families participate in the evaluation for three years; independent of whether they are actively receiving services through the *Nashville Connection*.

Families report on services that make a difference . . .

- *Transportation*
- *Family assistance –*
  - *Individuals to come in and help with "family meetings" – outside opinions helpful – having someone else as an " ear for listening"*
- *MHL*
- *Anger management – children and caregivers – learning to accept correction*
- *Respite care – need MORE*
  - *Need to feel comfortable that respite care worker is knowledgeable and sensitive, licensed*
  - *Services for siblings not in the Nashville Connection – these children need services and supports*

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*The **Local Data Profile** is prepared by the Vanderbilt Evaluation Staff and the Caregiver Evaluation Advisory Team twice each year in January and July.*

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